

A New Triggerfish, *Rhinecanthus abyssus*, from the Ryukyu Islands

Keiichi Matsuura and Yoshihisa Shiobara

(Received January 13, 1989)

Abstract A new triggerfish, *Rhinecanthus abyssus*, is described from three specimens collected in the Ryukyu Islands at depths of 120–150 m. It is distinguished from the other species of *Rhinecanthus* by the combination of the following characters: soft dorsal rays 22–23, soft anal rays 20, a large black blotch around anus, and no semicircular white band on posterior side of body.

The triggerfishes of the genus *Rhinecanthus* Swainson, 1839 are widely distributed in coral reefs in the tropical Indo-West Pacific. Randall and Steene (1983) described *R. lunula* as a new species from the South Pacific, recognizing six species in the genus. They clarified the taxonomic confusion of three closely related species, *R. cinereus* (Bonnaterre, 1788), *R. lunula* and *R. verrucosus* (Linnaeus, 1758).

Three specimens of *Rhinecanthus* similar to *R. cinereus* in color were collected in the Ryukyu Islands at depths of 120–150 m by hook and line. They are described below as new, bringing to seven the total species of the genus.

Methods and materials

The methods of counts and measurements follow those of Matsuura (1980) except for the length of dorsal and anal fin rays which is measured from the tip of the longest ray to the base of the proximal sheath. This is done to make it easy to compare the measurements of the present paper to those of Randall and Steene (1983). The pectoral ray count excludes the uppermost rudimentary ray although Randall and Steene (1983) included it in the count. In the following description, data in parentheses refer to those of the paratypes when they are different from those of the holotype. Specimens of *R. cinereus*, *R. rectangulus* (Bloch et Schneider, 1801) and *R. verrucosus* are compared with the new species. Institutional abbreviations are as follows: BPBM, Bernice P. Bishop Museum, Honolulu; MNHN, Muséum National d'Histoire Naturelle, Paris; MSM, Marine Science Museum, Tokai University, Shimizu; NSMT, National Science Museum, Tokyo.

Rhinecanthus abyssus sp. nov.

(New Japanese name: Soko-mongara)

(Fig. 1)

Holotype. NSMT-P 30093, male, 166.0 mm SL, off NE coast of Kume-jima Island (26°21.0'N, 126°50.5'E), Ryukyu Islands, 150 m depth, hook and line, 14 February 1986.

Paratypes. NSMT-P 30661, female, 166.6 mm SL, same locality data as holotype, 120–130 m depth, 26 July 1989; MSM-89-37, male, 163.7 mm SL, same data as preceding.

Diagnosis. Dorsal soft rays 22–23; anal soft rays 20; pectoral rays 13; body scale rows 40–42. Body relatively elongate, the greatest depth 2.0 in SL; snout long, 3.1 in SL; longest dorsal soft ray 3.4–3.6 in head length (HL) and longest soft anal ray 3.5–3.7 in HL. A broad black bar across caudal peduncle, edged anteriorly and posteriorly with a bluish white line; a broad black band extending from eye to pectoral base, continuing to the opposite across head; a large black blotch around anus, its diameter greater than width of black bar on caudal peduncle; caudal fin yellow anteriorly, pale posteriorly.

Description. Dorsal rays III-22 (23), the first two rays unbranched; anal rays 20, the first two rays unbranched; pectoral rays 13 (excluding the uppermost), the first upper ray unbranched; head scale rows 29 (28); body scale rows 42 (40).

Greatest depth of body 2.0, body depth at origin of anal fin 3.1, head length 2.4, snout length 3.1, snout to origin of first dorsal spine 2.1, snout to origin of soft dorsal fin 1.6, snout to origin of anal fin 1.5 (1.3), base of soft dorsal fin 3.9 (4.0–4.3), base of anal fin 4.6 (4.7–5.0)—all in SL. Body width 2.4 (2.5), length of gill opening 5.7 (5.3), depth of caudal peduncle 6.3 (6.2), length of caudal peduncle 3.7 (3.3–3.9), length of first dorsal

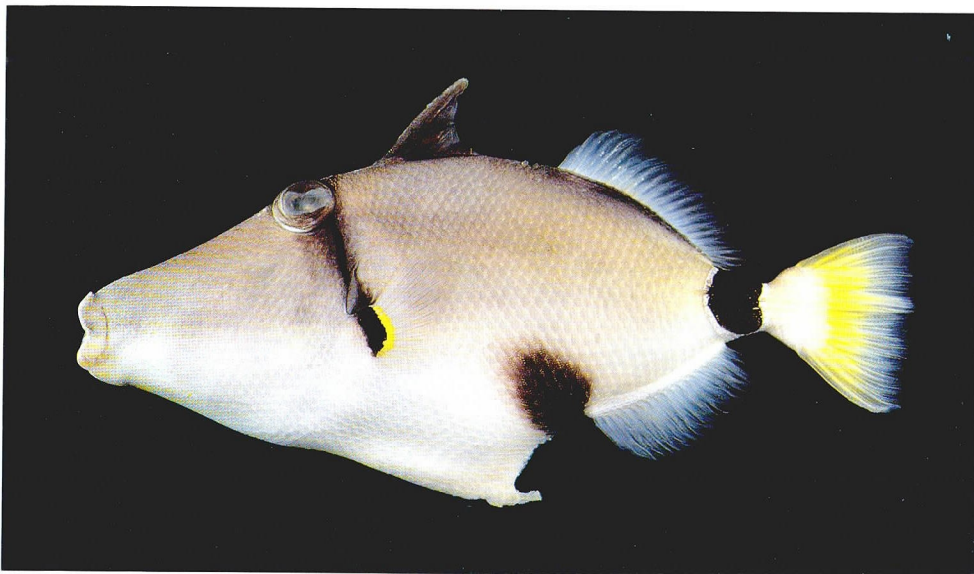


Fig. 1. *Rhinecanthus abyssus* sp. nov., holotype, NSMT-P 30093, 166.0 mm SL, Ryukyu Islands (photo by Y. Shiobara).

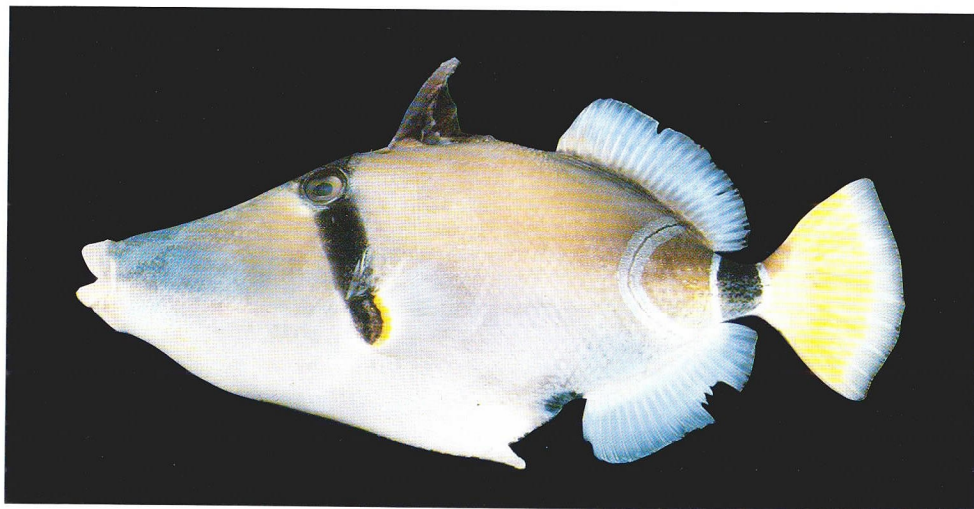


Fig. 2. *Rhinecanthus cinereus*, BPBM 20300, 165.0 mm SL, Mauritius (photo by J. E. Randall).

spine 2.3 (2.7–2.8), length of longest (4th) soft dorsal ray 3.6 (3.4), length of longest (4th) soft anal ray 3.7 (3.5), length of caudal fin 2.4 (2.6–2.8), length of pectoral fin 2.9 (3.1–3.3)—all in HL.

Body relatively elongate, compressed, covered with rhomboidal, plate-like scales as in other balistids. Snout long, its dorsal profile slightly concave; no grooves on cheek and in front of eye. Mouth small, terminal with fleshy lips; teeth incisiform, notched on edges, each upper jaw with 4 teeth in outer series and 3 teeth in inner series, the lower jaw with 4 teeth in a single series. Gill

opening small, slightly oblique, behind posterior margin of eye; a patch of enlarged scales just behind upper end of gill opening. Origin of spinous dorsal fin above pectoral fin; first dorsal spine long and stout, covered anteriorly with tubercles; second dorsal spine slender, slightly shorter than half of the first; third dorsal spine short and slender, slightly projecting above deep median groove which is extended on back just behind first dorsal spine. Soft dorsal and anal fins slightly rounded. Pelvic flap not developed; encasing scales movable dorso-ventrally, attached to end of pelvis. Caudal

Table 1. Fin-ray counts of species of *Rhinecanthus*. Data based in part on Randall and Steene (1983).

	Soft dorsal rays						Anal rays					Pectoral rays		
	22	23	24	25	26	27	20	21	22	23	24	12	13	14
<i>R. abyssus</i> sp. nov.	2	1					3						3	
<i>R. aculeatus</i>			8	21	3			11	19	2		1	24	7
<i>R. assasi</i>				1	6	6			2	9	2			13
<i>R. cinereus</i>			3	1				4						4
<i>R. lunula</i>					1	5			1	3	2		6	
<i>R. rectangulus</i>		8	30	1			12	25	1				37	2
<i>R. verrucosus</i>		1	2	17	13			7	18	8			32	1

fin rounded. Caudal peduncle short, tapering toward base of caudal fin; 4 (5) longitudinal rows of small antrorse spines on side of caudal peduncle, the inner 2 rows developed, the other rows small and weak.

Color in alcohol: brownish gray dorsally, paler ventrally; a large rounded black blotch immediately before origin of anal fin, becoming jet black just around anus; caudal peduncle nearly encircled with a broad black bar edged with white anteriorly and posteriorly (bar slightly separated on ventral side); 3 black lines crossing interorbital space; a black band extending from eye to pectoral base; spinous dorsal fin dark; pectoral, soft dorsal and anal fins pale; caudal fin pale yellow anteriorly, pale posteriorly.

Color when fresh: dorsal half of body brownish gray; a large ovoid black area around anus; a broad black bar on caudal peduncle, edged with bluish white anteriorly and posteriorly; a black band running from eye to pectoral base; a narrow yellow line on pectoral base; spinous dorsal fin black; pectoral, soft dorsal and anal fins pale; caudal fin yellow anteriorly, pale posteriorly.

Remarks. The new species is clearly distinguished from all other species of *Rhinecanthus* by having the lowest count of the soft rays of the dorsal fin (Table 1); it is separable from all but *R. rectangulus* in having only 20 anal soft rays. It is similar to *R. cinereus* in color but differs in having a large black blotch around the anus (small in *R. cinereus*) and in lacking a semicircular bluish white band continuing to a dark brown line on the posterior side of the body. This semicircular white band is still clear in a preserved specimen of *R. cinereus* (MNHN 4067, 199.4 mm SL) although it has become faded in another specimen (BPBM 20300, 165.0 mm SL) which is in poor condition. The band is very evident in a color photograph taken when the specimen was fresh (Fig. 2). No sexual dichromatism is found in the new species.

Etymology. The new species is named *abyssus*

from the Greek adjective *abyssos* in reference to the depths of 130–150 m where it was caught. The other species of *Rhinecanthus* are well known for their predilection for shallow water.

Acknowledgments

We would like to express our thanks to John E. Randall (BPBM) for the review of the manuscript and the loan of a specimen. Our thanks also go to Shinji Ogawa, local fisherman in Kumejima, Hiroshi Kobayashi of the Sunshine International Aquarium, and Shozo Hioki of the Marine Science Museum, Tokai University for sending the type specimens to us. We are grateful to M. L. Bauchot (MNHN) for the loan of the specimen of *R. cinereus* and to Shigeru Shirai and Kunio Sasaki of the Laboratory of Marine Zoology, Hokkaido University for taking counts of the fin rays of *R. rectangulus* and *R. verrucosus*. This is contribution number 103 of the Marine Science Museum, Tokai University.

Literature cited

- Matsuura, K. 1980. A revision of Japanese balistoid fishes. I. Family Balistidae. Bull. Natn. Sci. Mus., Tokyo, Ser. A, 6(1): 27–79.
 Randall, J. E. and R. C. Steene. 1983. *Rhinecanthus lunula* a new species of triggerfish from the South Pacific. Freshw. Mar. Aquar., 6(7): 45–51.
 (KM: National Science Museum (Nat. Hist.), 3–23–1 Hyakunin-cho, Shinjuku, Tokyo 169, Japan; YS: Marine Science Museum, Tokai University, 2389 Miho, Shimizu 424, Japan)

琉球列島から採集されたモンガラカワハギ科の新種ソコモンガラ

松浦啓一・塩原美敏

琉球列島の久米島沖の水深 120–150 m から採集された 3 個体にもとづいて、ムラサメモンガラ属の新種ソコモンガラ *Rhinecanthus abyssus* を記載した。本種はムラサメモンガラ属の他種から背鰭軟条数 22–23 本、臀鰭軟条数 20 本、肛門の周囲に大きな黒斑があり、体側後部に半円形の白色帯がない等の形質により識別される。ムラサメモンガラ属のなかで本種に最も近縁と考えられるのは、体色から判断して、インド洋西部に分布する *R. cinereus* である。

(松浦: 169 東京都新宿区百人町 3–23–1 国立科学博物館分館; 塩原: 424 清水市三保 2389 東海大学海洋科学博物館)